

# **TRAINING DEVICE FOR MOTORCYCLE RACING**

## **CROSS REFERENCE TO RELATED APPLICATIONS**

[0001] The present application claims priority on United States Provisional Application for Patent Serial No. 60/393,898 filed July 8, 2002, the entire disclosure of which is incorporated herein by reference

## **BACKGROUND OF THE INVENTION**

[0002] The present invention relates to training devices for motorcycle racing.

[0003] In many sporting events in which athletes compete against each other, success often depends upon speed. In motorcycle racing, the reaction time of a rider at the start of a race is an important factor. A fast reaction time at the start of a race enables a rider to place himself in a preferred position at during the initial portion of the race. Currently, there are no training devices that focus on the reaction time of a rider at the start of a race.

## **BRIEF SUMMARY OF THE INVENTION**

[0004] According to one aspect of the invention, a training device for motorcycle racing includes a handlebar including a right-hand grip and a left-hand grip, a control lever mounted to the handlebar at or near the left-hand grip for simulating a clutch of a motorcycle, and a timing circuit. The timing circuit may include a display, a timer, and an output such as a LED for generating a signal when activated. A random-timing generator may be connected to the timer and the output, and a switch may be connected to the timer and the random-timing generator and operatively connected to the control lever. In operation, the switch activates the random-timing generator when the control lever is actuated. In turn, the random-timing generator simultaneously activates the timer to begin timing and activates the output to generate a signal, at a random time after being activated by the switch. The switch then stops the timer when the control lever is released. The display displays an elapsed time between the time when the timer was activated and to the time when the timer was stopped.

[0005] Other features and advantages of the present invention will become apparent to those skilled in the art from a consideration of the following detailed description taken in conjunction with the accompanying drawings.

### **BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS**

[0006] FIG. 1 illustrates a training device for motorcycle racing;

[0007] FIG. 2 is a schematic view of a timing circuit of the training device;

[0008] FIG. 3 is a schematic view of an operative connection between a control lever and a switch of the timing circuit; and

[0009] FIG. 4 is a schematic view of a commercial embodiment of the timing circuit.

### **DETAILED DESCRIPTION OF THE INVENTION**

[0010] Referring more particularly to the drawings, a training device **10** for motorcycle racing is shown in FIG. 1. In a number of embodiments the training device **10** includes a handlebar **12** including a right-hand grip **14** and a left-hand grip **16**. A control lever **18** is mounted to the handlebar **12** at or near the left-hand grip **16** for simulating a clutch of a motorcycle.

[0011] With reference to FIG. 2, the training device **10** also includes a timing circuit **20**. The timing circuit **20** may be enclosed within a housing **22** mounted to the handlebar **12**. In a number of embodiments the timing circuit includes a display **24**, a timer **26** connected to the display **24**, and an output **28** for generating a signal when activated, for example, an audio signal or a visual signal such as light. The timing circuit **20** also includes a random-timing generator **30** connected to the timer **26** and the output **28**, and a switch **32** connected to the timer **26** and the random-timing generator **30**.

[0012] The switch **32** is also operatively connected to the control lever **18**. For example, referencing FIGS. 1 and 3, a cable **34** within a sheath **36** may connect the control lever **18** to a plunger **38**. Accordingly, when the control lever **18** is actuated (e.g., squeezed like a clutch), the plunger **38** moves inwardly (as shown by arrow A) to activate (e.g., close) the switch **32**; and

when the control lever **18** is released, the plunger **38** moves outwardly (as shown by arrow B) to deactivate (e.g., open) the switch **32**. A spring **39** may be provided to bias the plunger **38** in an open position.

[0013] When the control lever **18** is actuated, the switch **32** activates the random-timing generator **30**. When activated, the random-timing generator **32** generates a signal at a random time after activation, which signal is indicated by reference numeral **40** in FIG. 2. The signal **40** is provided to the timer **26** and the output **28** so that the timer **26** begins timing or counting and the output **28** generates a signal (e.g., lights up) simultaneously.

[0014] The user, upon becoming aware of the signal from the output **28**, then releases the control lever **18**, thereby opening the switch **32**. When opened, the switch **32** stops the counting of the timer **26**. The display **24** then displays the elapsed time between the time when the timer **26** (and the output **28**) was activated and then time when the timer **26** was stopped. Accordingly, the training device **10** trains users to react to a random event analogous to the start of a motorcycle race.

[0015] Referencing FIGS. 1 and 3, the timing circuit **20** may include a power supply **42** such as a battery and an on/off switch **44** to control the power to the other circuitry. A power-on status light **46** may be provided to indicate the timing circuit **20** is ready to go.

[0016] In addition, the timing circuit **20** may include a reset switch **48**. In a number of embodiments, the reset switch **48** may be mounted to the handlebar **12** at or near the right-hand grip **14** as shown in FIG. 1. The reset switch **48** may be actuated, for example, by depressing with the user's right thumb, to reset the display **24** to zero between random timing events.

[0017] Alternatively, the reset switch **48** may be used to initiate a random-timing event as described above. For example, a user may squeeze the control lever **18** and while holding the control lever **18** in a squeezed position, may actuate the reset switch **48**, which may activate the random-timing generator **30** to generate the signal **40** at a random time in the future.

[0018] The timing circuit **20** may also include a status indicator **50** that is illuminated between the time the random-timing generator **30** is activated until the time the timer **26** and the output **28** are activated. The illuminated status indicator **50** informs the user that the circuit is in

a random function and will provide the output at a random time. One specific commercial example of the timing circuit **20** is illustrated in FIG. 4.

**[0019]** In some of the embodiments, the training device **10** is self-contained and portable in that a user may hold the handlebars **12** at any position. Alternatively, the training device **10** may be mounted in a stationary position.

**[0020]** Those skilled in the art will understand that the preceding embodiments of the present invention provide the foundation for numerous alternatives and modifications thereto. For example, the signal output **28** may be a light, LED, or speaker (i.e., audio output) that provides a signal to a user. These other modifications are also within the scope of the present invention. Accordingly, the present invention is not limited to that precisely as shown and described in the present invention.